

L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1985:455483 CAPLUS

DN 103:55483

OREF 103:8949a,8952a

ED Entered STN: 24 Aug 1985

TI Water-soluble blocked isocyanates

PA Daiichi Kogyo Seiyaku Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-80

ICA C09D003-72

CC 42-7 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60040121	A	19850302	JP 1983-148598	19830813 <--
	JP 63012488	B	19880319		
PRAI	JP 1983-148598		19830813		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 60040121	ICM	C08G018-80
	ICA	C09D003-72
	IPCI	C08G0018-80 [ICM,4]; C08G0018-00 [ICM,4,C*]; C09D0003-72 [ICA,4]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0018-80 [I,A]; C09D0175-00 [I,C*]; C09D0175-00 [I,A]

AB The isocyanates, having excellent storability are prepared by blocking (A) organic isocyanate monomer or urethane prepolymer having  $\geq 1$  NCO [prepared by reaction of a compound having OH group(s) and an organic polyisocyanate] with (B) imidazole or its derivs. at the (NCO group of A)/(NH group of B) molar ratio  $\leq 1.0$  and by blocking the isocyanate with  $\geq 80$  mol% (based on B) inorg. acid, organic acid, or quaternary cationization agents. Thus, 16.8 parts 1,6-hexamethylene diisocyanate and 100 parts polyethylene-polypropylene glycol glycerol ether were mixed 60 min at 90° to give a urethane prepolymer (I, 3.50% NCO). Then, 10.7 parts 2-isopropylimidazole in 20 parts MEK was mixed 3 h with I at 60°, 13.46 parts 85% H3PO4 solution added, the mixture stirred 30 min at 30°, and 288.4 parts water added to give a transparent and viscous blocked isocyanate solution containing 30% cationic resin and having storability >3 mo. This solution 10, 5% NaHCO3 solution 2, and Elastron Catalyst 32 (catalyst) 0.3 part were mixed well, dried 2 h at 50°, and heated 10 min at 140° to give an elastic urethane resin film.

ST water soluble blocked polyisocyanate; imidazole blocking agent polyurethane; quaternary cationization agent urethane resin; storage stable blocked polyisocyanate soln

IT Coating materials  
(water-dispersible, polyurethane, storage-stable imidazole-blocked polyisocyanates for)

IT 64-19-7, uses and miscellaneous 64-67-5 7664-38-2, uses and miscellaneous  
RL: USES (Uses)  
(in manufacture of water-soluble blocked polyisocyanates)

IT 288-32-4DP, polyisocyanates blocked by 36947-68-9DP, polyisocyanates blocked by 50790-93-7DP, polyisocyanates blocked by 62292-90-4DP, imidazole derivative-blocked 97476-79-4DP, imidazole derivative-blocked  
RL: PREP (Preparation)  
(manufacture of water-soluble, storable, catalysts for)

RN 64-19-7

RN 64-67-5  
RN 7664-38-2  
RN 288-32-4DP  
RN 36947-68-9DP  
RN 50790-93-7DP  
RN 62292-90-4DP  
RN 97476-79-4DP

L4 ANSWER 2 OF 3 WPIX COPYRIGHT 2008 THE THOMSON CORP on STN  
AN 1985-090469 [15] WPIX  
DNC C1985-039327 [21]  
TI Water solution blocked poly-isocyanate(s) preparation - by reacting imidazole  
blocked poly-isocyanate with acid or salt to improve storage stability  
DC A25  
IN GOTO S; KITAMURA M; SATO K  
PA (DAII-C) DAIICHI KOGYO SEIYAKU CO LTD  
CYC 1  
PI JP 60040121 A 19850302 (198515)\* JA 6[0] <--  
JP 63012488 B 19880319 (198815) JA  
ADT JP 60040121 A JP 1983-148598 19830813; JP 63012488 B JP  
1983-148598 19830813  
PRAI JP 1983-148598 19830813  
IPCR C08G0018-00 [I,A]; C08G0018-00 [I,C]; C08G0018-80 [I,A]; C09D0175-00  
[I,A]; C09D0175-00 [I,C]  
AB JP 60040121 A UPAB: 20050423  
Preparation comprises (1) reacting (i) urethane prepolymer or organic  
isocyanates having more than 1 free NCO-gp. obtd. from (a) cpd. having at  
least one of OH gp. and (b) organic polyisocyanate monomer, and (ii)  
imidazole or substd. imidazole, and preparing blocked isocyanates, wherein  
ratio of (NCO gp. in the cpd. (i))/(NH gp. in the cpd. (ii)) ranges less  
than 1.0, and (2) reacting 0.8 mol. (based on cpd. (ii) of (c) acids or  
0.8 mol. (based on cpd. (ii) of cpd. (d) to prepare the quat. material.  
The cpd. (a) includes e.g. polyethylene glycol monoalkyl ether, polyether  
polyol, polyester polyol or polybutadiene glycol. The cpd. (ii) includes  
e.g. 2-methylimidazole, 2-n-butylimidazole or 2,4-dimethylimidazole. The  
cpd. (d) includes e.g. methyl iodide, diethylsulphate or benzylchloride.  
The cpd. (c) includes e.g. sulphuric acid, phosphoric acid, acetic acid or  
formic acid.  
USE/ADVANTAGE - The blocked polyisocyanates solution with improved  
storage stability is prepared The blocked polyisocyanate is used for  
adhesives, paints, emulsifier or as treating agents for fibres.  
MC CPI: A05-G01A

L4 ANSWER 3 OF 3 JAPIO (C) 2008 JPO on STN  
AN 1985-040121 JAPIO  
TI PREPARATION OF WATER-SOLUBLE BLOCKED ISOCYANATE COMPOUND  
IN GOTO SUMIO; KITAMURA MASATO; SATO KAZUO  
PA DAI ICHI KOGYO SEIYAKU CO LTD  
PI JP 60040121 A 19850302 Showa  
AI JP 1983-148598 (JP58148598 Showa) 19830813  
PRAI JP 1983-148598 19830813  
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1985  
IC ICM C08G018-80  
ICA C09D003-72  
AB PURPOSE: To obtain the titled compound neither to be expanded nor to be  
cured in the presence of water, having improved storage stability, by  
blocking a specific urethane prepolymer, etc. with an imidazole compound  
in a specific ratio, reacting it with a specific inorganic acid, organic  
acid, etc.  
CONSTITUTION: (A) A urethane prepolymer or organic isocyanate monomer  
containing one or more free NCO groups in one molecule obtained by  
reacting a compound containing one or more hydroxyl groups in one molecule  
with an organic polyisocyanate is blocked with (B) a (substituted)  
imidazole compound in a molar ratio of NCO group of the component A/NH

group of the component B of  $\leq 1.0$ . The blocked urethane prepolymer, etc. is reacted with  $\geq 0.8$ mol inorganic acid or organic acid (e.g., sulfuric acid, phosphoric acid, etc.) based on the component B, or  $\geq 0.8$ mol quaternizing agent (e.g., methyl iodide, dimethyl sulfate, etc.) based on the component B, to give the desired compound.

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